

IN THE CLAIMS:

Please amend the claims as follows:

Claims 1-6 (Cancelled)

7. **(Currently Amended)** A method Method to compensate for the temperature dependence of the signal in a measuring device for coating thickness using a magnetic sensor element as measuring device, the thickness of a coating comprising the steps of:

using a magnetic sensor element as the measuring device;

receiving a temperature signal corresponding to the internal resistance of the magnetic sensor element;

determining a correction factor using the temperature signal and temperature coefficients of the magnetic sensor element; and

correcting an output signal of the magnetic sensor element using the correction factor wherein the resistance of the magnetic sensor element is determined to receive a temperature signal which is used, together with the temperature coefficients of the magnetic sensor element, to determine a factor to correct the output voltage so that the corrected value of the output voltage is related to a reference temperature.

8. **(Currently Amended)** The method Method of claim 7, wherein the output signal of the magnetic sensor element is corrected by applying the correction factor to an input signal of the magnetic sensor element correction of the signal voltage is done by adjusting the current through the resistance of the magnetic sensor element.

9. **(Currently Amended)** The method of claim 7, wherein the correction factor is determined by calculation of the measured output voltage is performed by calculation.

Claims 10 and 11 (Cancelled)

12. (Currently Amended) The method of claim 7, wherein the magnetic sensor element is a Hall-sensor element.

13. (Currently Amended) The method of claim 7, wherein the magnetic sensor element is a GMR-sensor element.

14. (New) The method of Claim 7, wherein the temperature signal corresponds solely to the internal resistance of the magnetic sensor element.

15. (New) The method of claim 14, wherein the output signal of the magnetic sensor element is corrected by applying the correction factor to an input signal of the magnetic sensor element.

16. (New) The method of claim 14, wherein the correction factor is determined by calculation.

17. (New) The method of claim 14, wherein the magnetic sensor element is a Hall-sensor element.

18. (New) The method of claim 14, wherein the magnetic sensor element is a GMR-sensor element.